

Unlocking potential Easily optimized with Voith's winder upgrades



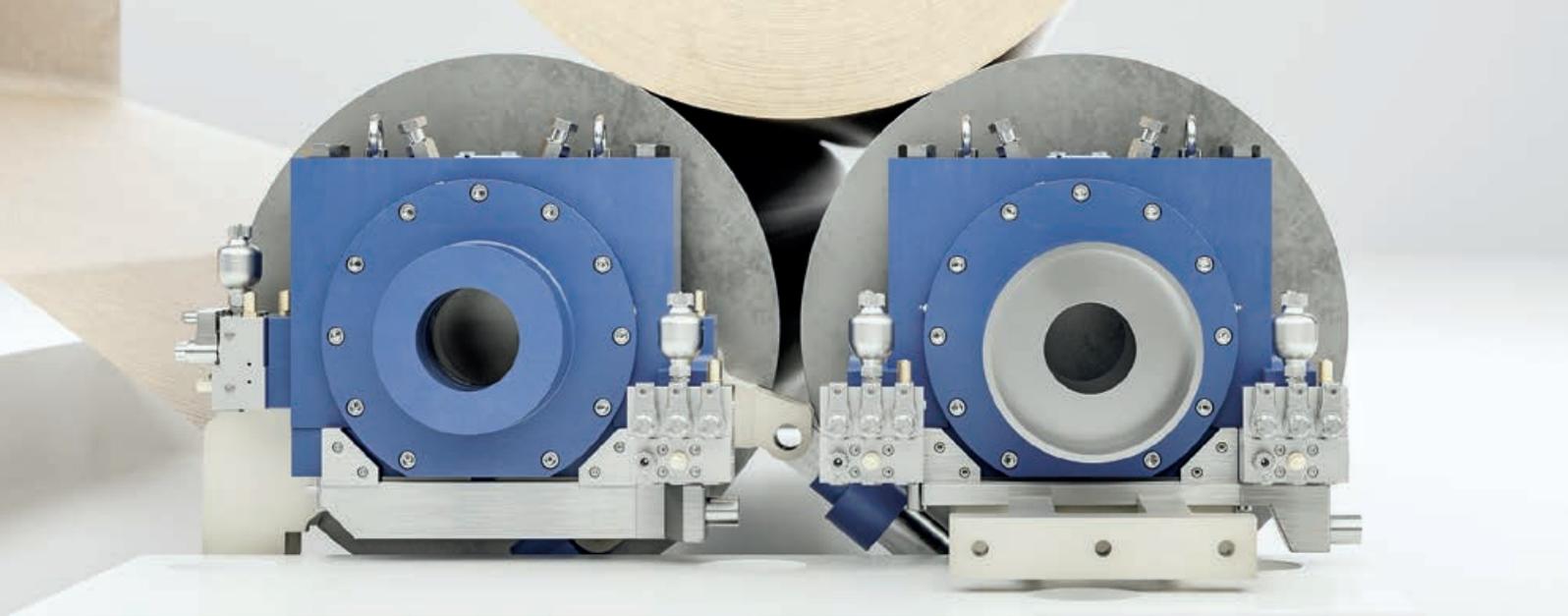


VOITH

VariFlex

ALST

ESCHNER



Hydro-pneumatic
damping SmoothRun

Winder upgrades for more capacity, better quality, increased safety and user-friendliness

Higher production capacities, quality improvements, added safety and automation: Voith upgrade solutions allow existing winders to be optimized specifically for your individual goals and situations. Voith solutions are suitable for winder models from various manufacturers and can be used in two-drum winders such as the VariFlex or single-drum winders such as the VariPlus. Upgrade solutions are available to achieve more capacity, better quality, increased safety and a higher level of automation.

Our upgrade solutions at a glance

- **Capacity upgrades (Page 4)**
Higher speed and shorter change times
- **Quality upgrades (Page 8)**
Customized solutions for better precision, quality and safety
- **Safety upgrades (Page 12)**
Mitigating danger points, increasing work safety
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- **Winder services (Page 15)**
Optimum performance and maximum system availability

Capacity upgrades

Higher speed and shorter change times

Smart solutions with great effect: With Voith's capacity upgrades, manufacturers have the ability to significantly increase production speeds and accelerate parent roll change and set change processes.

FlyingSplice and ButtSplice

For quick and clean splicing between parent rolls

Manual splicing is one of the most time-consuming steps when changing parent rolls at the unwind. The FlyingSplice and ButtSplice winder upgrades reduce parent roll change times.

FlyingSplice – Fast and fully automatic parent roll change

FlyingSplice enables fully automatic parent roll changes. The overlapping connection is suitable for most papermaking applications. A secondary brake on the assembly ensures an even web tension during splicing. The fully automated process reduces parent roll change times.

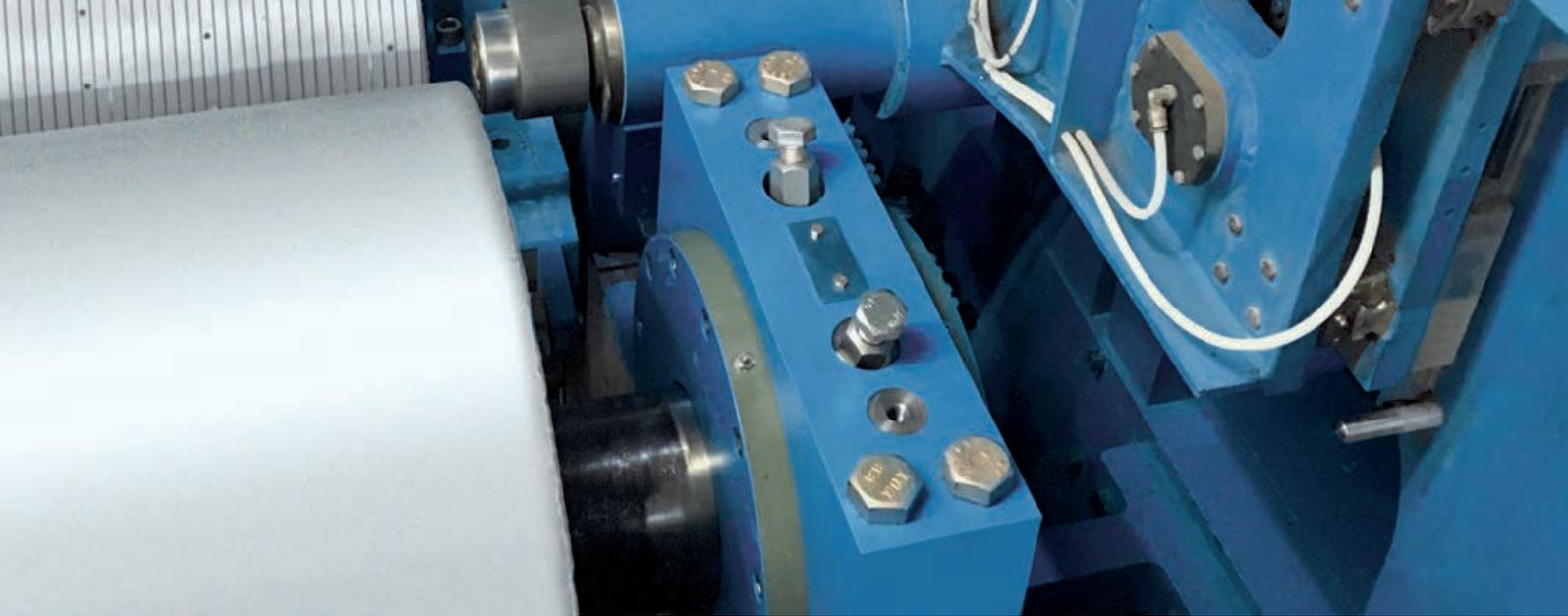
ButtSplice – Precise splicing for demanding applications

ButtSplice is the ideal solution for fast and precise splicing without overlapping layers. The automated process eliminates time-consuming manual web feeding. The butt splicing application is particularly suitable for rolls undergoing demanding post-processing steps.

Advantages

- Solutions to fit all customer requirements
 - Safe operation through fully automatic parent roll change
 - Faster parent roll change with FlyingSplice
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Hydro-pneumatic
damping SmoothRun

SmoothRun damping bearing system Unlocking available capacity

Effective vibration damping is a must to ensure consistent high speeds, even under the most demanding production conditions. The SmoothRun damping system – unique worldwide – minimizes vibrations caused by numerous factors in the production process. The results are optimal winding and reduced machine wear. In addition, the risk of uncontrolled roll kickouts is significantly reduced.

SmoothRun – Higher production speeds and better winding results

To minimize vibration interferences during the winding process, the production speed and acceleration rates of conventional winders are reduced below the maximum capable values. SmoothRun hydro-pneumatic damping bearings overcome these events by effectively minimizing vibrations, even at high speeds. SmoothRun ensures con-

sistently high production speeds and maximum acceleration rates.

Minimizing vibrations – Better quality, less maintenance and added safety

Significantly smoother machine operation improves the roll building quality considerably by reducing the winding defects resulting from vibrations. At the same time damping also lessens the mechanical load on the winder, which in turn lowers the overall maintenance costs. In addition, operator safety is increased as the risk of uncontrolled roll kickouts is reduced.

SmoothRun damping bearing system

- Smooth machine operation at high speeds
 - Capacity increases
 - Improved winding quality
 - Reduced maintenance effort
 - Enhanced operator safety
 - Compact retrofit solutions for existing machines
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Gecko OneStep

Gecko OneStep Adhesion and perforation in one step

The perfect upgrade solution for automatic set change, the Gecko OneStep, provides a combined perforation and adhesion process significantly reducing set change times for finished rolls. The automated process allows a set change to be completed in the shortest possible time.

Fast and safe – Set change with Gecko OneStep

Manual adhesion of finished rolls when changing sets is time-consuming and ties up personnel. The Gecko OneStep applies start and end adhesion as well as perforates the paper web all in one automated operation. The adhesive application for start and end adhesion is applied to an adhesive roller via a traversing assembly. The adhesive is then transferred from the rotating application roller to the paper web. At the same time, the same roll assembly perforates the paper web between the start and end sheet adhesion. The web is

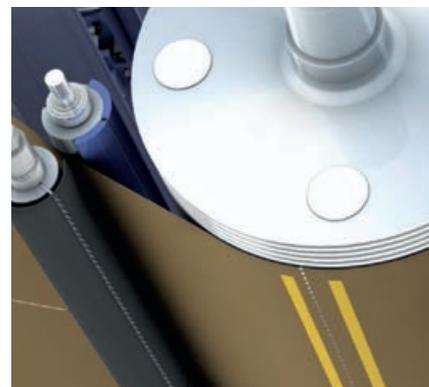
neatly separated when the finished roll is ejected.

Customized – The optimum adhesion for all paper and board grades

With the Gecko OneStep, the amount and pattern of the adhesive application is flexible so it can be adapted to the requirements of the finished rolls. The Gecko OneStep easily processes paper and board for many standard grades. Another advantage: The Gecko OneStep can be equipped to apply either hot-melt or tape adhesive. While hot-melt technology is advantageous with its attractively low operating costs, tape application meets special requirements for downstream processing, such as beverage cartons and the food industry.

Gecko OneStep

- Adhesion and perforation in one step
 - Significantly faster set change time
 - Solutions available for most basis weights
 - Flexibility through hot-melt or tape adhesive application
-



Adhesion and perforation with Gecko OneStep

Quality upgrades

Customized solutions for better precision, quality and safety

Voith quality upgrades facilitate targeted optimization of the production process. Solutions are available for the most diverse process steps, from automatic slitter positioning to a wide range of roll covers for optimized winding results.

TruSet

High-precision, automatic slitter positioning

Manual positioning of the slitters is a time-consuming process and the work requires maximum precision and is prone to errors. With a TruSet upgrade, the positioning of all slitters is automatic and exact with the highest precision

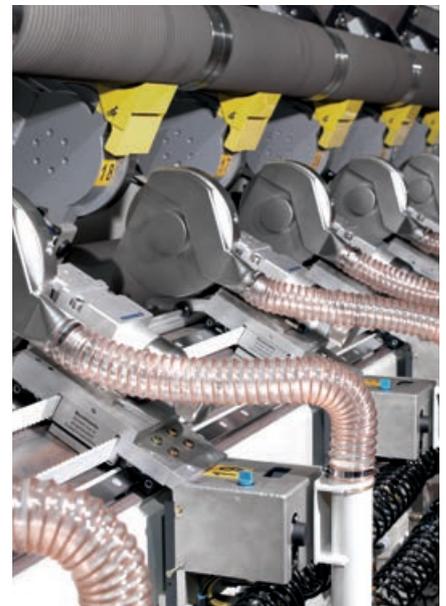
**Format pattern changes –
Higher precision, higher speeds,
fewer errors**

TruSet simultaneously positions all slitters in the winder automatically. For maximum precision, the upper and lower slitter assemblies are moved independently of each other without a mechanical linkage. The results are extreme precision and clean cuts. Automatic slitter positioning

with TruSet increases production capacity while reducing the reject rate due to incorrect pattern set up. System maintenance is also reduced as recalibration of the positions is not required after band sharpening or belt replacement.

TruSet

- **Highest cut precision (+/- 0.25 mm | +/- 0.010 in)**
 - **Lowering susceptibility to errors with robust design**
 - **Higher production capacity**
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TruSet high-precision positioning



Slitter dust extraction system

Slitter dust extraction Less dust for better quality

The Voith slitter dust extraction system removes the dust directly from the slitters during the cutting process considerably reducing overall dust entering the finished rolls, the machine and the surrounding environment. The result is improved product quality and reduced cleaning and maintenance.

Cleaner cutting area for reduced cleaning effort

Gradual dust accumulation around the winder during slitting affects the quality of the finished rolls, and in the long run, affects the longevity of moving machine parts. This requires a continuous maintenance effort to manually clean the winder and surrounding area. To minimize this

effort, the Voith slitter dust extraction system automatically removes dust directly at the slitter blade assembly. This reduces the amount of dust entering the finished rolls, the machine and the surrounding environment. Papermakers benefit from higher quality finished rolls as well as significantly reduced maintenance and cleaning efforts.

Slitter dust extraction

- Automatic dust extraction on the slitter blades
 - Reduced wear of the machine's moving parts
 - Less dust entering into the finished rolls
 - Less dust in the machine and surrounding environment
 - Reduced maintenance and cleaning efforts
-



Ela roll covers

The Ela family Customized roll covers for any application

Especially with surface-sensitive paper grades, the increasing nip pressure can lead to winding defects as the roll diameter increases. Using the Ela family of roll covers – ElaLoad, ElaGrip and ElaCare – the surface of the rolls can be optimally adapted to individual customer requirements. These solutions increase the winding quality and enable a significantly larger finished roll than with traditional equipment.

Ela roll covers – For better winding results

The quality of the winding is directly related to the roll covers on the winder. Depending on the type of paper, winders equipped with conventional steel rolls

processing large finished roll diameters and high winding speeds can result in winding defects. Quality can be significantly improved when using Ela roll covers. Three different elastomer coatings are available for the customized retrofit of two-drum and single-drum winders.

ElaLoad, ElaGrip and ElaCare – Optimum hardness and surface finish

The roll covers of the Ela family have a 10 mm / 0.4 in thick coating of soft rubber with various hardnesses and surface finishes. The winding results can be greatly improved by selecting the appropriate cover for the application. These covers reduce the nip pressure even in the event of deviations

in the cross profile of the paper web and minimizes the entry of air during the winding process. At the same time, the traction of the rolls is improved and the runnability of the paper web is stabilized. The result is higher winding quality and the option of winding larger and heavier rolls.

Ela roll covers

- Increased winding quality
 - Production of larger and heavier rolls
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RollerBar

The RollerBar spreader unit Highest precision even with narrow patterns

A clean and reliable slit separation is essential, especially for narrow patterns. The RollerBar spreader unit guarantees finished rolls with perfect end profiles – even with narrow patterns and high winding speeds.

Upgrade of the spreader unit – For perfectly separated finished rolls

Voith developed an upgrade for existing spreader systems to ensure precise and clean separation of finished rolls. The RollerBar system consists of narrow roller segments actuated via pneumatic cylinders. The segments are adjusted outside the roll barrier and can be readjusted during operation of the winder. The improved web travel enables

even narrow and difficult patterns to be cut quickly and cleanly at high winding speeds.

High winding quality and easy maintenance

The RollerBar spreader assembly guarantees not only perfectly separated finished rolls, but also high-quality winding results. An individually selectable crown setting of the roller segments allows optimum web spread. A further advantage is the simple maintenance: Individual roll segments can be replaced without having to completely disassemble the entire system.

RollerBar spreader unit

- Clean, separated finished rolls for narrow patterns and high winding speeds
 - Fewer rejects due to reduced quality issues
 - Improved winding quality
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Safety upgrades

Mitigating danger points, increasing work safety

Personnel safety during machine operation and maintenance of winders has top priority. Voith safety upgrades allow for the automation and quick acceleration of various production and maintenance processes. Therefore, the upgrade solutions promote a greater level of safety in the workplace.

Automatic web threading

For fast and safe paper web handling

With the upgrade to automated web threading, the new paper web is fully guided through the machine automatically during a parent roll change. This means only minimal manual intervention is required in the machine area for threading. In addition to offering a clear safety advantage, the automated process minimizes lost time.

Greater safety and higher capacity thanks to automatic web threading

When changing parent rolls, the new paper web is often threaded through the machine manually. Not only is this time-consuming, but also a potential source of errors and a safety risk for personnel. Voith's automatic web threading system

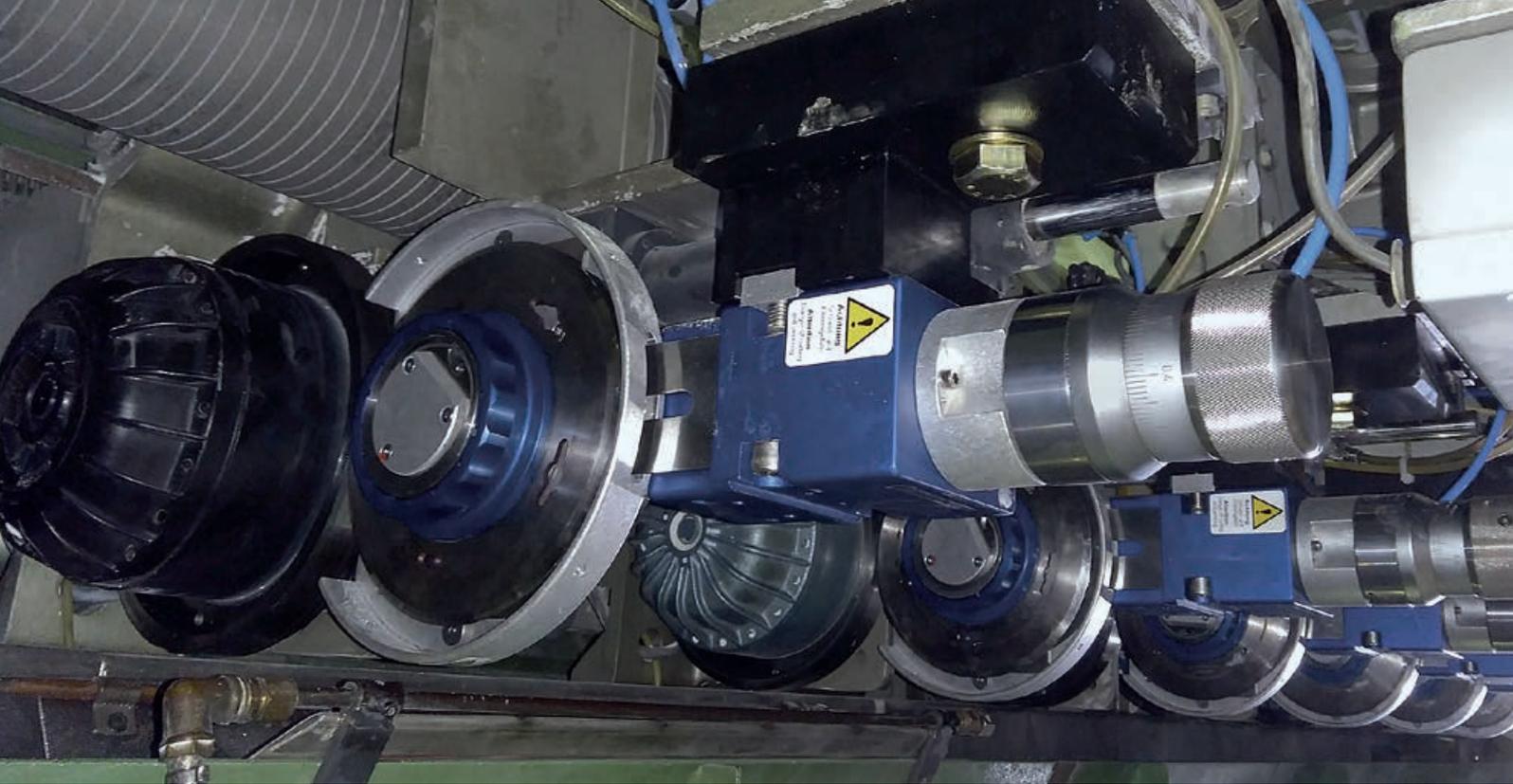
is significantly faster and safer than conventional manual threading systems. The upgrade solution automatically guides the new paper with belt threaders and air lubricated threading pans to the new core. This process requires minimal manual intervention when changing parent rolls. Automatic web threading provides a clear safety advantage and is significantly faster than manual threading, requiring only a short machine stop time. Additional capacity increases can therefore be achieved.

Automatic web threading

- Improved safety through automated process
 - Fast and reliable
 - Increased capacity due to shorter machine stop times
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Air nozzles and transfer tables



Quick blade change system

Quick blade change Shorter downtime and greater safety

The innovative blade quick-change system drastically reduces the work required when changing blades. The significantly improved change process not only ensures greater safety, but also shortens machine downtime resulting in increases in production capacity.

Faster and safer – Blade change in a few easy steps

With conventional systems, it can take several minutes to replace a slitter blade due to the many screw connections. With Voith's innovative blade quick-change system, time is considerably reduced. The blades are reliably secured by only one central screw, and the cover can be removed and reassembled without tools

using a quick-release fastener. This minimizes the time required to replace slitter blades. The simplified blade replacement procedure also reduces the risk of injury. Additionally, shorter machine downtimes lead to greater production capacity.

Quick blade change

- Blade replacement in record time
 - Time savings during replacement
 - Greater safety through a simple change procedure
 - Higher capacity due to shorter machine downtimes
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VariPlus

Automation and drive upgrades State-of-the-art control systems for high-capacity winders

The winder control system upgrade offers a variety of options for drive control and automation such as extensive reporting, analysis and remote service functions as well as the ability to upgrade or replace components in the future. With Voith automation and drive upgrades, the winder potential can be unlocked systematically to optimize the performance and reliability of winders and make them future-proof.

Replacing heterogeneous hardware and software systems

The automation solutions of the past for many winders have been based on multiple hardware and software systems. Solutions with numerous interfaces are unable to utilize the potential of a modern plant control system. For example, they no longer meet today's requirements for simple, fast and cost-effective serviceability. Additionally, reliability is declining and spare parts are often not available for obsolete components.

Fit for the future with a homogeneous central automation concept

A modern winder control system uses a central safety PLC to control all functions. In addition to the main drive control, it also includes control functions previously implemented using Z80 or PC technology. By introducing one central automation concept with standardized components, the system can be optimized at many levels. The new system facilitates maintenance through extensive diagnostic functions and simple remote serviceability. In addition, a 24/7 hotline staffed by Voith winder experts ensures high plant availability.

Drive and automation control

- **Increased performance through a homogeneous hardware and software environment**
 - **Future-proofing with state-of-the-art technology**
 - **Improved availability of spare parts**
 - **Cost-effective maintenance through diagnostic functions and remote service**
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Customized services

Winder services

Optimum performance and maximum system availability

Voith services ensure optimum performance and maximum system availability of the winder over its entire service life. The comprehensive range of services is customized to meet individual customer requirements.

Solutions for smooth operation and high performance

With many years of experience and innovative service concepts, professional Voith service teams ensure consistently optimized operating conditions. The service solutions can be as simple as a requested service call or as complex as regular inspections and optimization of the system functionality. With proper servicing, operators are able to avoid production and quality losses and ensure smooth runnability and high performance.

Customized service solutions for every situation

Voith's portfolio of winder services covers all central areas and can be easily adapted to meet individual conditions and requirements. Depending on the desired scope of services, offerings include regular inspections of the complete winder, status and functional tests, as well as technological consultation. Replacement and installation of various components can also be regulated via the service contract.

Winder services

- Highest system availability
 - Optimal performance through flawless replacement components
 - Longer service life directly correlated to optimum maintenance
 - Qualified service directly from the original equipment manufacturer
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